

REMARKS/ARGUMENTS

In the final Office Action dated January 30, 2007, Claims 1-5, 7-16, 18, and 20-25 are pending. The Examiner rejects all of the pending claims under 35 U.S.C. § 103(a) as being unpatentable over the admitted state of the art in view of U.S. Patent No. 5,893,683 to Johnson, U.S. Patent No. 5,816,754 to Shallenberger, U.S. Patent Application Publication No. 20020168241 to David et al., and U.S. Patent Application Publication No. 20050015980 to Kottilingam et al.

Applicants respectfully submit that independent Claims 1 and 13 are patentably distinguishable from the cited references. Therefore, in light of the subsequent remarks, which do not raise new issues, Applicants respectfully request reconsideration and allowance of the claims.

Independent Claims 1 and 13 were previously amended to recite that the router bit includes at least one cutting edge having a relief angle between 0 and approximately 3 degrees. The Examiner contends that although Johnson and Shallenberger do not disclose the precise relief angles recited by Claims 1 and 13, the specific relief angle is a "result-specific variable" that may be varied depending on the amount and shape of the material to be removed. Moreover, the Examiner finds that no unexpected results from using the claimed range of relief angles have been shown.

Applicants respectfully disagree with the Examiner's conclusions, as the relief angle is not a result-specific variable. In this regard, a result-specific variable is one that achieves a recognized result and that may be modified to determine the optimum or workable ranges of the variable through routine experimentation (see e.g., *In re Aller*, 220 F.2d 454 (CCPA 1955)). In this instance, there is not an "optimum" relief angle or a "workable range" of relief angles, and the Examiner has not shown that the prior art recognizes any particular relief angle as better than another. Rather, the relief angle of the claimed invention is chosen to remove less material than previous routers, and it is the combination of the shallow relief angle and conical bottom surface that is advantageous over the prior art routers.

An opinion from the Board of Patent Appeals and Interferences is instructive. In *Ex parte Dornfield et al.*, the claim at issue recited detecting acoustic emissions at frequencies above 50,000 Hz (Appeal No. 2002-1029, Appl. No. 08/869,328) (unpublished). The prior art only

disclosed sampling frequencies above 20,000 Hz, and the BPAI held that “[t]here is no disclosure that any frequency affects the sensitivity of the process cutoff or that any frequency above 20,000 Hz is better than any other frequency.” In addition, the BPAI stated that “[t]here is certainly no disclosure that frequency is a variable that can be optimized to effect a result.”

Analogously, independent Claims 1 and 13 recite that router bit comprises at least one cutting edge having a relief angle between 0 and approximately 3 degrees. The cited references do not disclose that any particular relief angle is better than any other relief angle, and there is no disclosure that the relief angle can be optimized to effect a result. Therefore, Applicants submit that the Examiner’s contention that the relief angle is a result-effective variable is misplaced.

Therefore, Applicants respectfully submit that none of the cited references, taken alone or in combination, teaches or suggests independent Claims 1 and 13 of the present application, and the rejection under 35 U.S.C. § 103(a) is overcome. In addition, it is submitted that the pending dependent claims are allowable for at least those reasons discussed above with respect to independent Claims 1 and 13.

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Reply to Office action of 01/30/2007

CONCLUSION

In view of the remarks presented above, which do not raise new issues, Applicants submit that the present application is in condition for allowance. As such, the issuance of a Notice of Allowance is therefore respectfully requested. In order to expedite the examination of the present application, the Examiner is encouraged to contact Applicants' undersigned attorney in order to resolve any remaining issues.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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